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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,225	09/08/2003	Justin K. Brask	42P17298	2688

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EXAMINER

BARRECA, NICOLE M

ART UNIT PAPER NUMBER

1756

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/658,225

Applicant(s)

BRASK, JUSTIN K.

Examiner

Nicole M. Barreca

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10/13/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 9-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 13-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Applicant's election of Group I, claims 1-8 and 13-21 in the reply filed on 10/13/05 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 9-12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 10/13/05.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 2, 4-8, 13, 14, 16-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Sasa (US 4,445,364).
5. Sasa discloses a method for forming a metallic image. A metallic thin layer is formed over a support and a light sensitive resin layer or image-wise etching resistant layer is formed, exposed and developed. Portions of the metallic layer not covered with the resist will be dissolved by etching (col.2, 8-44). The light sensitive resin layer alone

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is first developed with the developing solution for the light sensitive resin layer to form and to leave the image-like anti-corrosive film and the second development is made with the treating or developing solution for the metallic layer (col.4, 27-32). As the treating solution, a known treating solution can be employed in accordance with the metal to be used (i.e. solution is based on the composition of the metal film). Such treating solutions include aqueous alkaline solutions, aqueous acidic solutions, and aqueous oxidizing solutions. The treating solution is prepared by adding the metal chelating agent. The metal chelating agent means a compound capable of producing a chelate compound with a metal of the metallic thin layer disposed over the substrate at the time of etching (i.e. chelating agent is selected based upon the composition of the metal film). See col.4, 42-68. The metal chelating agent is added to the treating solution at a concentration of 0.001 mole/L or more (col.5, 4-43).

6. Claims 1-4, 6-8, 13-15, 17-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Bojkov (US 6,979,647).

7. Bojkov discloses a method for chemical etch control of noble metals in the presence of less noble metals. The removal of a first metal from the presence of a second metal is accomplished by placing the first and second metals in an oxidizing etchant solution containing a chelating agent which selectively forms a complex with the first metal (col.1, 64-col.2, 6). Resist layer 201 defines the opening which exposes the metal seed layer (col.3, 63-67). The wafers are immersed in an oxidizing etchant solution which is usually a highly acidic bath. Chelating agents are added to the solution which binds the seed ions into chemical complexes. Dependent on the metal

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used in the seed layer one can select chelating agents specific for certain metals (col.5, 13-67).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasa.

10. Sasa teaches a method for etching a metallic thin film using a treating solution comprising a metal chelating agent and a photoresist mask. The reference is silent on the presence of a non-metal film previously deposited on the substrate and does not therefore disclose that the chelating agent does not impair such a non-metal film.

However the reference does teach that the chelating agent is selected in order to form a compound with the metal of the layer. Therefore one of ordinary skill in the art would expect that such a treating solution would be reacting with the metal compounds and not any non-metal compounds, and would not impair any non-metal layers that may be present. The necessity of any addition layers would be dependent on the design requirements of the specific device being manufactured. It would be within the ordinary skill of one in the art to determine the necessity of such additional layers.

11. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasa as applied to claim 13 above, and further in view of Bojkov.

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12. The teachings of the Sasa have been discussed previously. Sasa discloses a method for etching a metallic thin film using a treating solution comprising a metal chelating agent and a photoresist mask. The reference is silent on the presence of a second metallic film and does not disclose that the chelating agent does not impair a second metallic film that does not contain the specific metals contained in the (first) metallic film. Bojkov discloses a method for chemical etch control of noble metals in the presence of less noble metals. The removal of a first metal from the presence of a second metal is accomplished by placing the first and second metals in an oxidizing etchant solution containing a chelating agent which selectively forms a complex with the first metal (col.1, 64-col.2, 6). It would have been obvious to one of ordinary skill in the art to use a chelating agent in the etching solution which is selective to the metal in the first metallic film and does not impair a metal in the second metallic film, if a second metallic film was required in the etching method of Sasa, as this selective metal etching method is taught to be effective by Bojkov.

### ***Double Patenting***

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

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A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 1-8 and 13-21 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 15-19 of U.S. Patent No. 6,974,764. Although the conflicting claims are not identical, they are not patentably distinct from each other because while the wording is not identical both claim etching a metal layer using a resist mask and an etching solution comprising a chelating agent.

15. Claims 1-8 and 13-21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10/704,498. Although the conflicting claims are not identical, they are not patentably distinct from each other because while the wording is not identical both claim etching a metal layer using a resist mask and an etching solution comprising a chelating agent.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Conclusion***

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicole M. Barreca whose telephone number is 571-272-1379. The examiner can normally be reached on Monday-Thursday (9AM-7PM).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark F. Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nicole M Barreca  
Primary Examiner  
Art Unit 1756



1/9/06